



**LONG RANGE ESTIMATES FOR NON-ESTIMATORS**  
**OFFICE OF DESIGN TRAINING EXPO**  
**JUNE 11, 2014**

Presented by:  
Cheri Sylvester, LRE Administrator



# Objective of this Session

To introduce you to the purpose, features, and capabilities of the Long Range Estimates system.

*This session is not intended to teach you the intricate details of developing an LRE estimate.*

**LRE New User Training – BT-05-0101**

# Today's Topics

1

- Estimating Systems

2

- LRE Basic Concepts

3

- LRE Pricing

4

- Demonstration

5

- Snapshots

6

- Communication

# Why Do We Have LRE?

- LRE is the tool used for developing construction cost estimates for the 5-Year Work Program early in the development of the project.

Home Estimates 230717-2-52-01 Versions Version 2-P			
Main FM % Factor Non-Bid Sequences Create Seq Renum Prices Replace T*P			
Last Update	4/8/2009 10:26:31 AM		
By UserID	PM404GL	No. Sequences this Project	1
Sequences Subtotal	\$1,139,699.14	Landscaping %	0.56%
MOT Cost	\$113,969.91		
Mobilization Cost	\$100,293.52		
Project Sequences Total	\$1,353,962.57		
Project Unknowns Amount	\$0.00		
Non-Bid Amount	\$50,000.00		
Project Grand Total	\$1,403,962.57		

Phase 52 PDC in Work Program should match the LRE estimate

FDOT- work Program Administration  
Item Segment Phase

Requested Version: G1  
Item/Segment: 230717 2 Status: 010 PRE-CONST.UNDERWAY old Item  
Desc: FIESTA WAY BRIDGE# 865735 OVER LAS OLAS  
Trans System: 16 OFF STATE HWY SYS/OFF FED SYS Man Dist: 04 Box  
Begin Search At Phase: \_ \_ FP Seq: \_ \_ Project Total: 2,224

Ver	Phase	Seq	Year	Fund	Pgm	PDC Amount	Total Amount	All Typ	Dstr Typ/Area
G1	3	9	01	2010	EDOH 00	395	395	1	
	5	2	01	2012	BRTZ 03	1,403,963	1,601,922	1	
	5	6	01	2011	BRTZ 04	41,886	41,886	1	




## Why do we have 2 estimating systems?



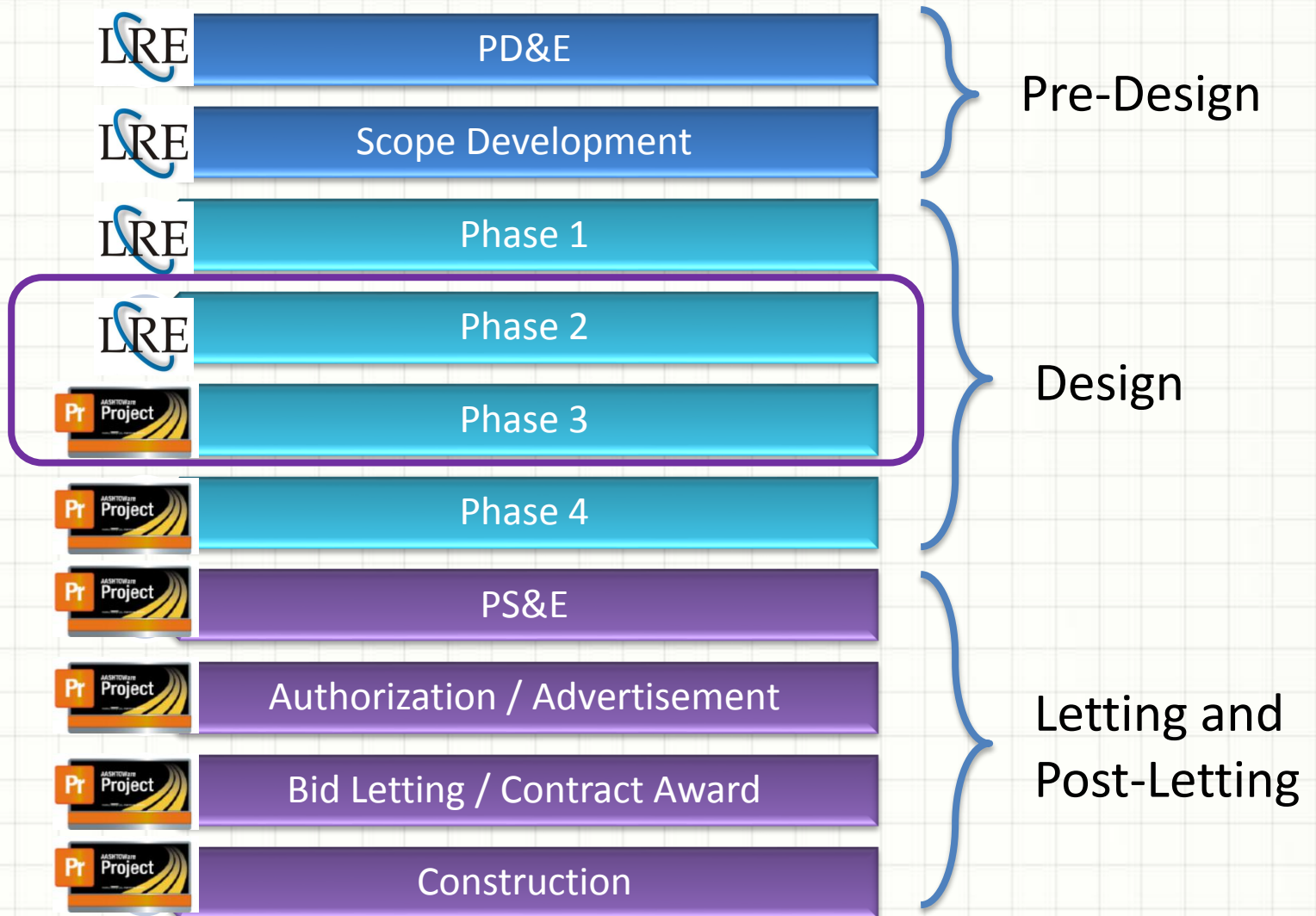
- **LRE**

- Pre-Design estimate, used in establishing funds for future projects
- Generates pay items and quantities you can EXPECT to have, based on project characteristics (typical section, length, etc).



- 
  - Design estimate, used to develop the Department's Official Estimate, for bid comparison purposes
  - Contains KNOWN pay items and quantities, based on complete (or nearly complete) plans.

# Estimate Phase Progression



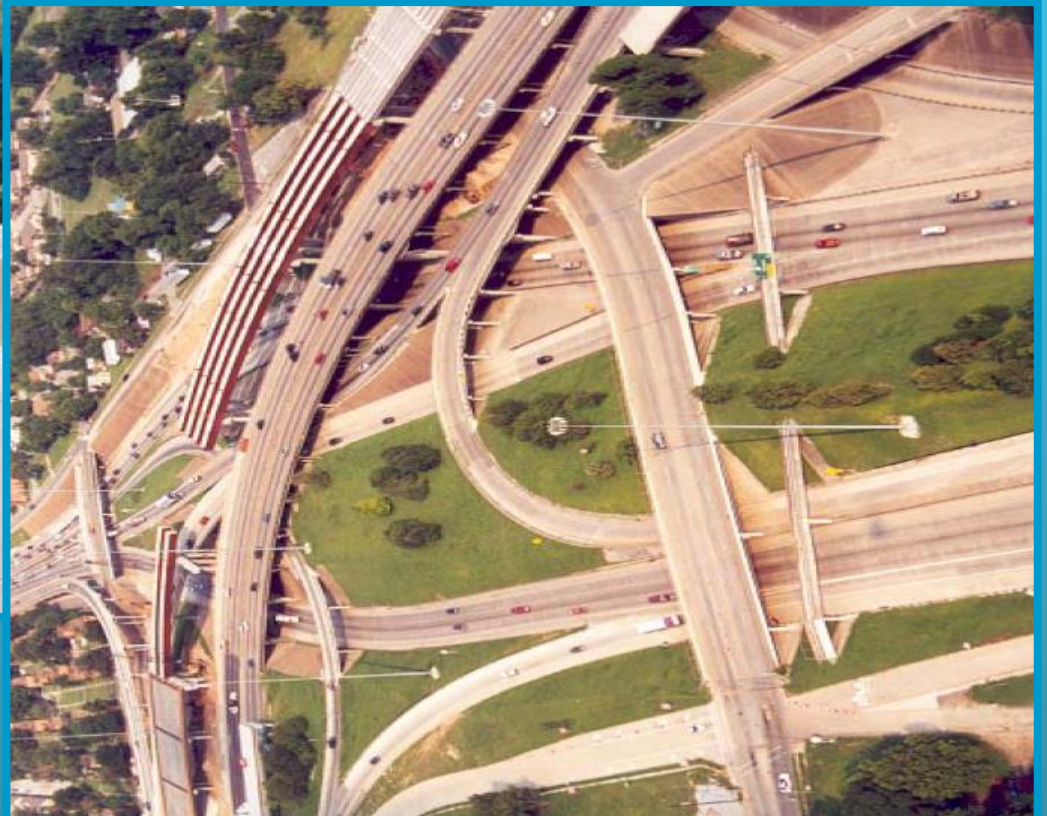


# LRE BASICS

- Project Structure
- Typical Sections
- Pay Items and Quantities
- Unit Prices and Price Refresh



# LRE Project Structure





# Typical Sections

- 12 models are available in LRE, reflecting:

- **Construction type**

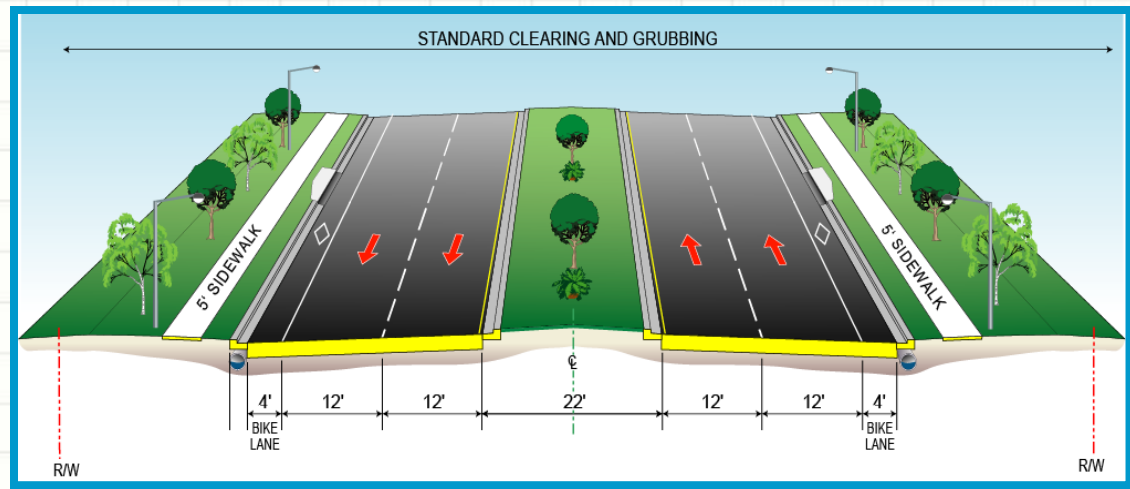
- New Construction
- Resurfacing
- Widening

- **Median**

- Divided
- Undivided

- **Shoulder type**

- Rural
- Urban



- Default values representing typical section characteristics are pre-coded into the models. These values can be changed.

# Pay Items and Quantities

- For the “key” components, typical section quantities are based on formulas:
  - Earthwork
  - Roadway
  - Median
  - Shoulder
- Characteristics are applied to a length of roadway to generate:
  - Pay items
  - Quantities
  - Unit prices

The screenshot shows a software interface for calculating roadway quantities and costs. The interface has a blue header with tabs: Roadway, Turnouts/Crossovers, Pavement Marking, Peripherals, X-Items, and EX-Items. Below the tabs are buttons: Zero Out Prices, Reset to Defaults, Calculate, Undo Calc, and Save. The main area contains input fields for Number of Lanes (4), Roadway Pavement Width Left (28.00 LF), and Right (28.00 LF). Below these are input fields for various pavement layers: Stabilization (160-4), Base (285-709), Structural Course (334-1-13), Friction Course (337-7-6), and Concrete Pavement. Each layer has a dropdown menu for the material type and a button for the description. The right side of the interface features a table titled "Calculated Values" with columns for Quantity, Unit Price, and Extended Amount. The table lists the calculated values for each layer: Stabilization (38,907.73 SY, \$3.30 C, \$73,146.53), Base (32,853.33 SY, \$17.26 C, \$724,087.39), Structural Course (4,928.00 TN, \$84.19 M, \$372,606.08), Friction Course (2,628.27 TN, \$160.52 S, \$181,666.02), and Concrete Pavement (0.00, \$0.00, \$0.00). The table is highlighted with a yellow border.

			Quantity	Unit Price	Extended Amount
Stabilization	160-4	Desc	38,907.73 SY	\$ 3.30 C	\$73,146.53
Base	285-709	Desc	32,853.33 SY	\$ 17.26 C	\$724,087.39
Structural Course	334-1-13	Desc	4,928.00 TN	\$ 84.19 M	\$372,606.08
Spread Rate	300	LB/SY			
Friction Course	337-7-6	Desc	2,628.27 TN	\$ 160.52 S	\$181,666.02
Spread Rate	160	LB/SY			
Concrete Pavement		Desc	0.00	\$ 0.00	\$0.00

# Pay Items and Quantities

## Drainage

Detail Total \$1,269,715.97

Add CD Items

Add X-Items

Add EX-Items

Reset to Defaults

Calculate

Undo Calc

Return

Save

☐ Select All Items to Delete on This Page

Del	Item #	Description	Quantity	Unit Price	Extended Amount
<b>Component Detail Items</b>					
1	<input type="checkbox"/> 400-2-2	<a href="#">CONC CLASS I</a>	18.00	CY \$ 1,300.00 C	\$23,400.00
2	<input type="checkbox"/> 425-1-351	<a href="#">INLETS, CURB</a>	36	EA \$ 4,551.62 M	\$163,858.32
3	<input type="checkbox"/> 425-1-451	<a href="#">INLETS, CURB</a>	10	EA \$ 7,196.67 M	\$71,966.70
4	<input type="checkbox"/> 425-1-521	<a href="#">INLETS, DT B</a>	5	EA \$ 4,006.09 C	\$20,030.45
5	<input type="checkbox"/> 425-2-41	<a href="#">MANHOLES, P-</a>	5	EA \$ 3,773.30 S	\$18,866.50
6	<input type="checkbox"/> 430-171-101	<a href="#">PIPE CULV OP</a>	2,648.00	LF \$ 73.11 M	\$193,595.28
7	<input type="checkbox"/> 430-171-103	<a href="#">PIPE CULV OP</a>	5,000.00	LF \$ 150.02 M	\$750,100.00
8	<input type="checkbox"/> 430-172-102	<a href="#">PIPE CULV OP</a>	240.00	LF \$ 113.04 S	\$27,129.60
9	<input type="checkbox"/> 570-1-2	<a href="#">PERFORMANCE</a>	304.00	SY \$ 2.53 C	\$769.12

Add CD Items

Add X-Items

Add EX-Items

Reset to Defaults

Calculate

Undo Calc

Return

Save

**FDOT Long Range Estimating System - Production**

R4: Project Details Composite Report

By Version

**Pay Items**

Pay Item	Description	Total Unit Quantity	Weighted Avg. Unit Price	Total Amount
102-1	MAINTENANCE OF TRAFFIC	10.00		\$175,472.36
101-1	MOBILIZATION	10.00		\$193,019.59
104-10-3	SEDIMENT BARRIER	13,728.00 LF	\$4.16	\$57,108.48
104-11	FLOATING TURBIDITY BARRIER	250.00 LF	\$13.11	\$3,277.50
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	250.00 LF	\$3.14	\$785.00
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$1,400.00	\$1,400.00
107-1	LITTER REMOVAL	1.20 AC	\$22.09	\$26.51
107-2	MOWING	1.20 AC	\$56.27	\$67.52
110-1-1	CLEARING & GRUBBING	12.12 AC	\$11,635.37	\$141,020.68
120-6	EMBANKMENT	54,689.07 CY	\$5.31	\$290,398.96
160-4	TYPE B STABILIZATION	25,813.33 SY	\$6.50	\$167,786.64
285-709	OPTIONAL BASE,BASE GROUP 09	14,467.20 SY	\$14.18	\$205,144.90
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,936.00 TN	\$82.09	\$158,926.24
337-7-33	ASPH CONC FC,TRAFFIC C,FC- 12.5,RUBBER	1,161.60 TN	\$101.29	\$117,658.46
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$810.74	\$14,593.32
400-2-4	CONC CLASS II, SUPERSTRUCTURE	226.85 CY	\$573.75	\$130,155.19
400-2-10	CONC CLASS II, APPROACH SLABS	67.62 CY	\$325.85	\$22,033.98
400-4-5	CONC CLASS IV, SUBSTRUCTURE	153.72 CY	\$725.87	\$111,580.74
400-9	BRIDGE DECK GROOV & PLANING, DECK 8.5">	346.67 SY	\$5.54	\$1,920.55

Project Unknowns

0.00 %

\$0.00

Design/Build

0.00 %

\$0.00

Version 1-P Project Grand Total

\$2,066,882.07



# LRE Prices



- Default Average Prices for County, Market Area, and Statewide
  - Price file is refreshed monthly;  
*this does not refresh the prices that are on existing projects!*
  - Uses most recent 12 months of bid history;
  - Uses all bids, not just low bid;
  - Weighted average, with outliers omitted.
- Project prices
  - Initially, the lowest level default price available will populate the unit price field, but user can select a different price;
  - District LRE Coordinators can perform a refresh of project prices, whenever necessary.
  - District LRE Coordinators can lock unit prices on projects.



# **PROJECT SCOPE ISSUES, WORK PROGRAM STABILITY, AND COMMUNICATION**

*The Estimator will represent the project scope  
to the best of his or her knowledge.*

# Scope Tracking & Snapshots

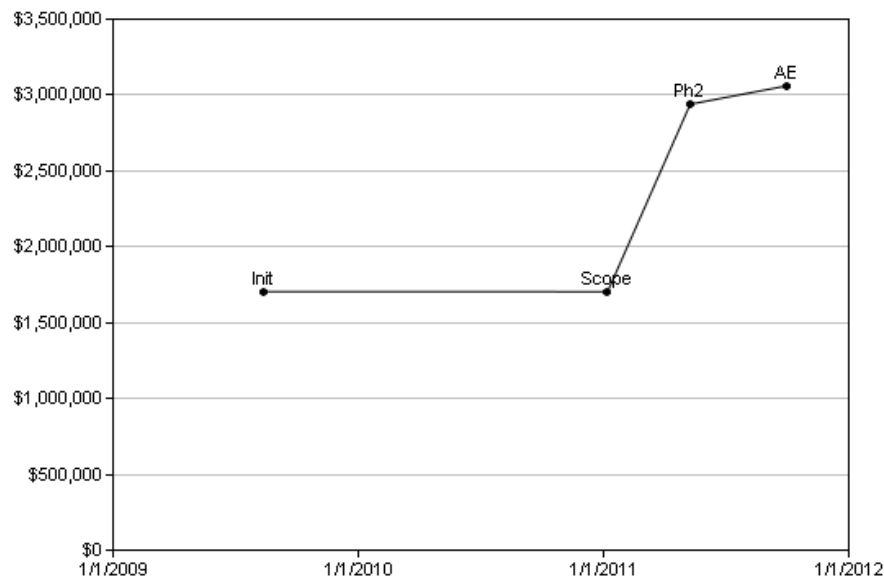
- Changes in Estimate amounts are tracked by using point-in-time “snapshots” at project milestones:
  - Initial Estimate
  - Scope Estimate
  - Phases 1-4
- Reasons for changes in cost are included:
  - Material cost changes
  - Scope Creep or quantity errors
  - Scope changes (due to design issues)

Version 2-P Project Grand Total		\$21,033,122.30
Date Taken:		
Manual / Auto:		
Last Update:		
Snapshot Label:		
Snapshot Description:		
Reason(s) for Change:		

Version 4-P Project Grand Total		\$5,092,171.90
Date Taken:	08/15/2011 01:55:33 PM	
Manual / Auto:	Manual	
Last Update:	08/18/2011 04:53:01 PM by KN846RE	
Snapshot Label:	Scope LRE	
Snapshot Description:	Scope estimate, unit prices adjusted.	
Reason(s) for Change:		
	Material Cost Changes	\$120,132.12
	Description: Unit prices adjusted based on recent bids.	
	System Generated	

# Scope Changes

What happens to the estimate when the scope changes?



	Snapshot 1 8/14/2009 Version 1-P	Snapshot 2 1/7/2011 Version 1-P	Snapshot 3 5/10/2011 Version 3-P	Snapshot 4 10/1/2011 Version 4-P
Grand Total	\$1,704,498.63	\$1,703,786.30	\$2,939,366.83	\$3,060,600.00
Phase	Initial LRE Estimate	Scope LRE	Phase 2 (60% Plans)	Authorization Estimate
% Change		-0.04%	72.52%	4.12%





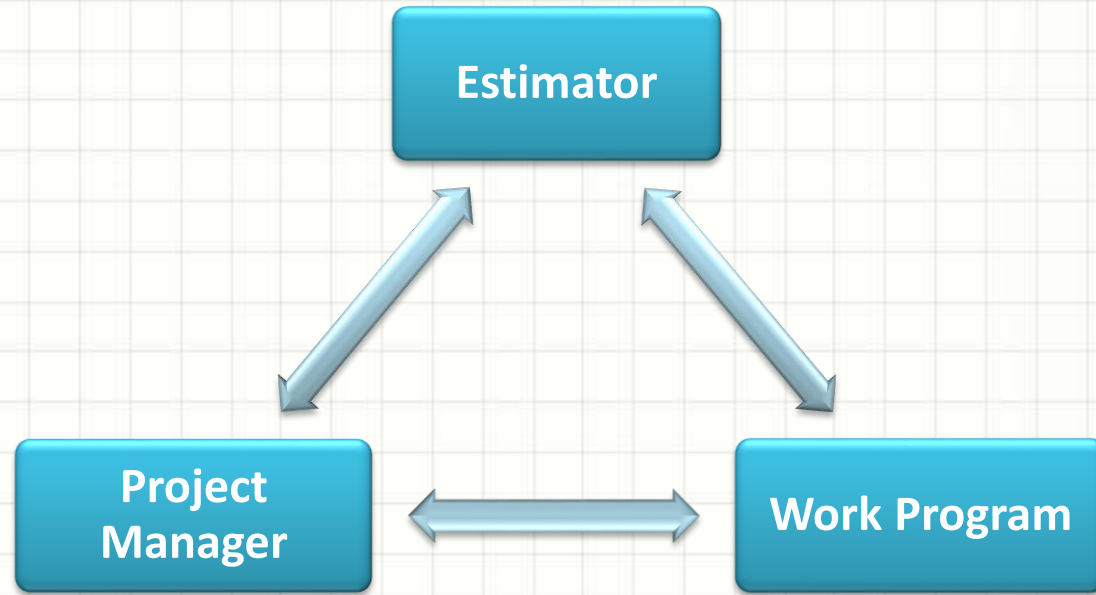
# Cost Estimate Task Team

(Recommendations to Ensure WP Stability)



- “Estimates should NEVER be artificially constrained to stay within budget.”
- “The project Scope of Work should be well defined early in project development. Significant scope changes should be approved by upper management.”
- “Districts should foster a culture that requires a close working relationship between project consultants, project managers and estimators to ensure the project features are accurately reflected in the estimate.”


# Communication is Essential!



# Useful Reports

- (R7) WPA vs. LRE
- (R6) Scope Tracking
- (R9) Project Summary  
for Selected FY
- (R10) District Summary  
Report (All FY)

# Useful Reports

**LONG RANGE ESTIMATES**  
User ID: SP965FT      Role: Guest      Date: 6/10/2014

Home Reports

Reports

R6

Scope Tracking Report

R7

WPA vs LRE Report

R9

Project Summary for Selected Fiscal Year(s) Report

R10

District Summary Report



For support please contact: [Service Desk](#)  
[FDOT Privacy Policy](#)  
[State Estimates Office](#)  
[Cheri Sylvester](#), State Administrator  
Telephone: (850) 414-4179





# Useful Reports

- WPA vs. LRE
- Scope Tracking
- Project Summary for Selected Fiscal Year(s)
- District Summary Report (All FY)

FDOT Long Range Estimating System - Production					
R9: Project Summary for Selected Fiscal Year(s) Report					
District 07 - 2017					
FDOT Long Range Estimating System - Production					
R10: District Summary Report					
District 01					
(This report lists only Official Primary versions)					
Project	Project Number	Project Description	Project Manager	Letting FY	Project Grand Total
230717-2-5	193898-2-52-01	US 17 FROM CR 760A (NOCATEE) TO HEARD STREET	CES-NEM-JRP	2015	\$23,243,787.30
230718-2-5	194425-2-52-01	SR 17 (SE LAKEVIEW) FROM US 27/ 98 TO KENILWORTH BLVD	RLC-EAP-JML	2015	\$1,006,293.27
230719-2-5	194485-4-52-01	US 27 (SR 25) FROM LAKE ISIS AVENUE TO POLK C/L	PBS-MLP-NLW	2014	\$226,395.00
230720-2-5	195416-6-52-01	SR 84 (DAVIS BLVD) FROM E OF SANTA BARBARA BLVD TO W OF RADIO ROAD	PBS-RFH-DEL	2015	\$90,260.26
230730-1-5	195718-4-52-01	SR 739 (METRO PKWY) FROM S OF WINKLER TO N OF WAREHOUSE ROAD	PBS-BAM-RFH	2099	\$4,623,580.15
406919-1-5	195718-5-52-01	SR 739 (METRO PKWY) FROM S OF HUNTER ST TO HANSON STREET	PBS-RFH-DEL	2099	\$2,250,792.95
408362-1-5	195718-6-52-01	SR 739 (METRO PKWY) FROM WESTWOOD ENTRANCE TO HANSON STREET	PBS-RFH-DEL	2099	\$13,519,803.00
412420-3-5	196114-2-52-01	US 41 (SR 45) FROM I-275 TO HILLSBOROUGH CL	CES-EAP-MMG	2014	\$5,054,119.12
413049-2-5	196904-2-52-01	SR 70 FROM NE 34TH AVENUE TO NE 80TH AVENUE	CES-NEM-JYW	2014	\$21,378,511.55
419025-1-5	196904-4-52-01	SR 70 FROM NE 80TH AVENUE TO BERMAN ROAD	CES-NEM-JRP	2014	\$20,444,624.89
419653-3-5	197394-1-52-01	SR 563 (N-S ROUTE) FROM PIPKIN ROAD TO SR 572(DRANE FIELD)	PBS-JYW-BMB	2050	\$83,025,331.78
422866-1-5	197534-4-52-01	US 27 FROM BARRY ROAD TO LAKE COUNTY LINE	RLC-NEM-CSM	2013	\$25,788,433.09
423022-1-5	197652-1-52-01	US 27 (SR 25) AT SR 60 INTERCHANGE	GEC-BAM	2099	\$9,084,908.71
423469-1-5	197709-1-52-01	US 27 FROM N OF CR 547 TO HOLLYHILL GROVE RD#1	PBS-RFH-BMB	2006	\$11,024,897.60
424131-1-5	198010-1-52-01	US 301 FROM WOOD STREET TO S OF UNIVERSITY PKWY	PBS-JYW-BMB	2099	\$34,368,976.24
424430-1-5					
424431-1-5					
424648-1-5					
424649-1-5					
424651-1-5					
424671-1-5					
% (	Project Non-Bid:		\$1,113,115.75		
	Project Grand Total:		\$308,173,537.47		

# Contact Information



## Estimating Systems Support Team / State Specifications and Estimates Office

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Demo



Questions?